

CLAIM AMENDMENTS

1. (previously amended) An on-chip multiple tap transformer balun comprises:

first winding operably coupled for a single-ended signal; and

a plurality of windings operably coupled for at least one of a first differential signal and a second differential signal, wherein a first of the plurality of windings is symmetrical with a fourth winding of the plurality of windings, and a second winding of the plurality of windings is symmetrical with a third winding of the plurality of windings.

2. (previously amended) The on-chip multiple tap transformer balun of claim 1, wherein the plurality of windings comprises a substantially octagon interwound shape with a plurality of taps for coupling to the first and second differential signals.

3. (currently amended) The on-chip multiple tap transformer balun of claim 1 further comprises:

a shunt winding on a different layer, wherein the shunt winding is coupled in parallel with the first winding.

4. (previously amended) The on-chip multiple tap transformer balun of claim 1, wherein the plurality of windings further comprises:

fifth and sixths windings operably coupled for a third differential signal, wherein the fifth winding is symmetrical with the sixth winding.

5. (previously amended) The on-chip multiple tap transformer balun of claim 1 further comprises:

a plurality of shunt windings on a different layer, wherein the plurality of shunt windings is connected in parallel to with the plurality of windings.

6. (previously amended) The on-chip multiple tap transformer balun of claim 1 comprises:

the first winding being on a first layer of an integrated circuit;

the plurality of windings being on a second layer of the integrated circuit, wherein the second layer is a metalization layer of the integrated circuit having lowest resistivity.

7. (original) The on-chip multiple tap transformer balun of claim 1, wherein the first winding further comprises multiple turns.

8. (cancelled)

9. (previously amended) The on-chip multiple tap transformer balun of claim 1, wherein the plurality of windings further comprises:

a rectangular octagonal shape having a first dimension lengthened with respect to a square octagonal reference shape and having a second dimension shortened with respect to the square octagonal reference shape, wherein area of the rectangular octagonal shape is similar to area of the square octagonal reference shape.

10. (original) The on-chip multiple tap transformer balun of claim 1 further comprises:

an integrated circuit size based on a balancing of inductance values of the on-chip multiple tap transformer balun, turns ratio of the on-chip multiple tap transformer balun, quality factor of the on-chip multiple tap transformer balun, and capacitance of the on-chip multiple tap transformer balun.